

REMARKS

Reconsideration and allowance of all the claims are respectfully requested in light of the above amendments and the following remarks. Claims 1 and 3-29 are pending herein, with claims 23-26 being previous withdrawn from consideration by the USPTO.

Claim 29, which has been added, recites that the coupler solely secures and braces the shaft connecting element 29 and the connecting plate element 28 non-rotatably to the driven member 35. Support for this is shown in Fig. 3, wherein coupler 27 is shown in an exploded view as being insertable within the shaft connecting element 29 and the connecting plate element 28 to couple (attach) to the drive means 35. As shown in the drawing, there are no screw holes, slots, etc. radially arranged along the shaft of the coupler 27 because only the flanged portion of the coupler provides the interlocking with the other elements.

Applicant notes with appreciation the indication that claim 15 recites allowable subject matter, and claim 15 has been rewritten in an independent format.

With regard to the claim amendments, claim 1 has been amended to clarify in part that the connecting plate element and the shaft element are separate components, inter-connectable with each other, and the connecting plate element is secured non-rotatably and braced to the driven member by a coupler. Support for these amendments to claim 1 are found in original claims 2, 10, 12 and 13, Fig. 3, and the specification at page 15, lines 19-20, and page 16, lines 9-12. The claims have also been amended to overcome any informalities.

I. Objections to Abstract and Specification

The Abstract (as attached) has been amended to overcome all of the objections thereto in the Office Action. The specification has been amended where appropriate for similar reasons.

II. Title of the Invention

As required by the Office Action, the Title of the Invention has been changed to "JACK-SHAFT OPERATOR ASSEMBLY HAVING FLAT CONNECTING PLATE SECURED BY COUPLER TO DRIVE MEMBER", which is more descriptive of the claimed subject matter.

III. Rejection of claims 1-22, 27 and 28 under 35 U.S.C. §112, 2nd paragraph

The claims have been amended to overcome the grounds of rejection under 35 U.S.C. §112, second paragraph listed in the Office Action.

IV. Art Rejections

Claims 1, 2, 4-6, 8-10, 18, 20-22, 27 and 28 are rejected under 35 U.S.C. §102(b) in view of EP 0 651 123 (hereinafter "EP'263").

Claim 3 is rejected under 35 U.S.C. §103 in view of EP 0 651 123 and Mullet et al. (US 6,658,454).

Claim 7 is rejected under 35 U.S.C. §103 in view of EP '123.

Claim 11 is rejected under 35 U.S.C. §103 in view of EP '123 and Mullet et al. (US 6,401,792).

Claims 12-14 are rejected under 35 U.S.C. §103 in view of EP '123 and Benson (US 2,870,616).

Claims 16 and 17 are rejected under 35 U.S.C. §103 in view of EP '123 and Anderson (US 3,703,071).

Claim 19 is rejected under 35 U.S.C. §103 in view of EP '123 and Hormann (US 4,878,529)

It is respectfully submitted that all of the above rejections are traversed.

Base claim 1 has been amended to include features from claims 2, 10, 12 and 13. This moots the rejections of 1-11, 16, 17, 18-22, 27 and 28.

Amended claim 1 recites, *inter alia*, the connecting plate element is a separate piece from the shaft connecting element (shown in Fig. 3), and the connecting plate element is secured non-rotatably and braced to said driven member by of a coupler. The coupler 27, an example of which is shown in Fig. 3, interlocks the shaft connecting means 20 (comprising the connecting plate element 29 and the shaft connecting element 28) to the driven member 35. The coupler, in particular, has a flanged portion in which positive engagement with a receiving recess in the connecting plate element is such that the coupler and the connecting plate can not rotate relative to each other, but are axially movable.

Claims 12 and 13, upon which amended claim 1 is based in part, were rejected as being unpatentable over EP '263 in view of Benson.

EP '263 does not anticipate any of the pending claims. For example, EP '263 fails to disclose or suggest a coupler with a flanged portion is arranged to connect the shaft connecting means to the driven member. EP '263 discloses the use of an adaptation part 24 or an adapted output member to connect a shaft means to the driven member, and as shown in Fig. 1 of the reference, does not have a minimal clearance between the drive shaft and the motor.

In addition, in the present claimed invention, the separation of the shaft connecting element and the connecting plate element makes it possible initially to fit only the connecting plate element to the jack shaft operator. The door shaft (or drive tube) can have a tube connecting element mounted

separately, permitting the jack shaft operator and connecting plate element shifted into the fitted position transversely to the axial direction of the door shaft (specification at page 3, lines 25-30). EP'263 fails to disclose or suggest the structure recited in present claim 1.

With regard to the rejections under 35 U.S.C. §103(a), it is respectfully submitted that the combinations of EP '263 and: Benson, either Mullet patent, Hormann, or Anderson, fail to disclose, suggest, or provide any motivation such that any of the present claims would have been obvious to an artisan at the time of invention.

For example, with regard to the combination of EP '263 and Benson, this combination fails to disclose a flat connecting plate that is securable to a shaft connecting element. In fact, with regard to Benson, the crankshaft C is keyed to the tubular metal core 10, and there is no positive engagement by a coupling unit that couples the driven member and the connecting plate element. The above-mentioned construction in the combination of EP '263 and Benson contrasts with the construction in the present claimed invention. In claim 1 of the present invention, the connection between the connecting plate and the driven member is made by the coupler that is in positive engagement with the connecting plate element, shaft connecting element, and driven member.

Furthermore, Benson uses a screw to couple the crankshaft to the core and it is not fully received within a recess in a connecting plate, as presently claimed. Benson, which is in the field of lawn mowers, is directed to a coupling for connecting a rotary mower blade with the crankshaft of a mower motor. As visible from Fig. 2 and Fig. 3 of the reference, the crankshaft C is the driving element shaft of a door. Thus, Benson is in a non-analogous field of art.

An advantage of the present invention is that the structure of a connecting plate being secured by the coupling element to a driven member of the jack shaft operator is extremely flat. Therefore,

the jack shaft operator can be coupled at the end of a hollow door shaft even if the space is extremely limited. Benson does not direct to this problem since he discloses a lawn mower.

With regard to new claim 29, it is shown in Fig. 3 that the coupler 27 is insertable into the connecting plate element 29 and shaft connecting element 28 to the driven member 35. As there are no screw holes, slots, groove, etc. along the axial portion of the coupler, the coupler is solely the only component that braces and interlocks the shaft connecting element 28 and connecting plate element 29 to the driven member 35. None of the combinations of references applied in the Office Action discloses or suggests the aforementioned structural difference.

The combination of EP '263 with either of the Mullet references and/or Anderson or Hormann fails for similar reasons, stated above, in that none of these combinations discloses or suggests the structure of the connecting plate element and shaft connecting element as presently claimed.

For all of the above reasons, all grounds of rejection under 35 U.S.C. §102(b) and §103(a) are overcome.

VII. Conclusion

In view of all the foregoing reasons, all grounds of objection and rejection are overcome. The Application is in condition for immediate allowance, which is respectfully requested.

Respectfully submitted,

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APV/SG
Enclosures:
Revised Abstract (Attachment I)

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